USDA

Natural Resources Conservation Service

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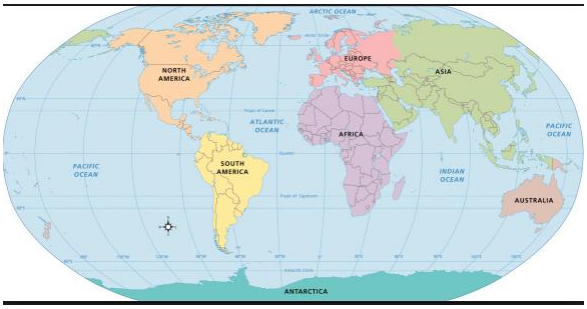
This is an overview of NRCS employees' participation in international development activities during the second half of 2014. Partnering institutions include the USDA's Foreign Agricultural Service (FAS), U.S. Forest Service, and U.S. Bureau of Reclamation.



For additional information on these and other NRCS international activities, please contact IPD:

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Disaster Risk Reduction - Watershed Management and Protection Workshop

The U.S. Forest Service (USFS), in partnership with the Caucasus Environmental NGO Network (CENN), conducted a five day training titled: Disaster Risk Reduction - Contemporary Practices in Watershed Management and Protection Workshop that was held in Kazbegi, Georgia in July of 2014. This training was done in support of the project on Climate Change Adaptation and Disaster Mitigation (CCADM) funded by USAID that is being implemented by CENN. The USDA training instructors for this effort were Jon Fripp, an NRCS civil engineer and Bella Gordon, Russia, Europe, Near Asia Program Specialist with the U.S. Forest Service, International Programs.

The workshop addressed a variety of basic soil and water conservation techniques for the protection and rehabilitation of degraded watersheds. These conservation techniques can be used to provide resiliency to a watershed which will reduce impacts of weather caused disasters. Techniques and approaches useful in engaging communities to implement these watershed protection and rehabilitation techniques were also presented as well as integrated throughout the workshop. Outside activities including practice with field topographic and water quality measuring equipment was held on site as well as near the Gergeti area and Sno Valley.

The training was attended by 25 participants from a variety of NGO and university

organizations. Participants had very diverse education backgrounds and a variety of job descriptions. They included technical specialists as well as managers, organizers and decision makers. This diversity in expertise greatly facilitated both the in-class as well as the field discussions. The diversity in background will also likely improve communication as many have become more aware of each other and relative expertise.

Jon Fripp discussing watershed rehabilitation with students attending the workshop.

While no definite plans have been made, the USDA TDY team members discussed a variety of potential follow up activities that could be accomplished to further capacity development of the natural resource professionals in the Caucus region. These activities could include follow on workshops, training and direct assistance help. On-going ad-hoc and informal communication and consultation regarding specific technical issues have continued since the workshop.

Desert Landscape Conservation Cooperative Trans-boundary Collaboration

The Desert Landscape Conservation Cooperative (Desert LCC) is an international partnership that brings together managers, stakeholders, communities, and others to collectively address landscape conservation in the major desert and mountain regions of the Southwestern United States and Northern Mexico (http://www.usbr.gov/dlcc/). It is one of 22 cooperatives functioning as a network to develop a coordinated, science-based response to climate change and other landscape-scale stressors on land, water, human, cultural and wildlife resources.

Michael Margo, Rangeland Management Specialist, stationed at the Marfa Soil Survey Office in Marfa, Texas, participated in a meeting that was held in Aguascalientes, Mexico, from July 8 – 10. Meeting objectives were to build an international foundation for the Desert LCC partnership by engaging representatives from existing and potential partners within the Desert LCC geography in Mexico, identify the greatest opportunities and barriers to cooperative international conservation, explore possible solutions, and identify shared interests, critical information gaps, and potential projects.

Topics for the first day of the meeting included climate change and climate-smart landscape conservation design. It was emphasized that landscape scale stressors on the environment such as climate change requires collaborative partnerships with shared goals across juridical boundaries, both nationally and internationally, to ensure sustainability of natural and cultural resources.

The second day consisted of three concurrent sessions: 1) Terrestrial Ecosystems; 2) Stream and Spring Ecosystems; and 3) Geospatial. The focus was for participants to elucidate current projects, information, and data available within the Desert LCC. This would help initiate ideas for international pilot projects for conserving aquatic, riparian, and grassland ecosystems, and to identify possible solutions to the challenges of conducting collaborative, trans-boundary conservation.

Michael's presentation titled "Ecological Sites: Interpreting Soil Surveys for Rangeland Classification, Inventory, and Management"

spurred much interest in NRCS's land classification system. Ecological sites have the potential to provide a consistent framework for classifying and describing rangelands across international boundaries. A limitation of utilizing or merging this classification system with Mexico's *Uso de Suelos* is the different soil classification system and scale of maps. Developing a crosswalk table between soil attributes and classification from Mexico and that of the U.S. was discussed.

Outcome of the meeting included binational project ideas and specific action items, such as recruiting critical partners from Mexico, overcoming language and communication barriers, and developing consistent monitoring and data sharing methodologies among our binational partners. At this meeting, the Desert LCC took a big step forward in developing an international partnership that allowed us to inform and coordinate conservation efforts for priority ecosystems in the U.S. and Mexico, allowing us to make a greater collective impact than any one organization could make alone. Meeting participants from Mexico and the U.S. have already begun acting on the outcome of the meeting in Aguascalientes, Mexico, and advanced them further at the Desert LCC's annual planning meeting held in August 2014.

World Reference Base Workshop

Kenneth Scheffe, National Soil Classification Specialist, National Soil Survey Center, Lincoln, Nebraska, attended the World Reference Base (WRB) Field Excursion Ireland 2014 during September 13-20, 2014. The field tour to classify various soils in Ireland began in Wexford in southeast Ireland with a formal release of the Irish Soils Information System for public use. This is a fully digital soil survey product at 1:250,000 scale similar to the NRCS's NASIS system. This was a formal event with political leaders and scientist from Ireland participating.

The objective of the Irish Excursion was to test and train the approximately 25 participants in the use of the WRB 3rd edition. Participation included soil scientists from Poland, Germany, Netherlands, Russia, Latvia, Luxembourg, Italy, Ireland, Norway, South Africa, Belgium, Austria, Czech Republic, Hungary, and the United States. The group visited a total of 12 sites from Wexford southwest to Schull classifying all soils according to the WRB, the Irish Soil Classification System, and the U.S. Soil Taxonomy.

Kenneth participated as the U.S. national technical specialist in Soil Taxonomy for several reasons. WRB is a major soil classification system used around the world and he needed to see and understand the working of WRB compared to the U.S. Soil Taxonomy system for soil classification. Kenneth represented the U.S. Soil Taxonomy and used the opportunity to meet and develop professional relationships with the worldwide players in soil classification. He provided the U.S. Soil Taxonomy classification of the sites visited using Soil Taxonomy. Many countries represented either also use Soil Taxonomy, or developed their national soil classification system to parallel U.S. Soil Taxonomy.

Benefits to the NRCS and U.S. agriculture include additional exposure of participants and developers of the WRB to the U.S. Soil Taxonomy system for soil classification. Important contacts were made or renewed with leading scientists around the world. The Soil Science Division is forming the International Committee on Soil Taxonomy (ICOMTAX) as a consortium of the leading soil classification experts from around the world. The goal of the ICOMTAX is assuring continued developments in the U.S. Soil Taxonomy and maintain it as a system of soil classification used around the world. At the 20th World Congress of Soil Science in Jeju, South Korea in June of 2014, the International Union of Soil Scientists (IUSS) gave its official endorsement of the U.S. Soil Taxonomy as an approved system of soil classification.

Next Generation of Forest Agency Leaders

The coming decades will present the world and forest agencies with many daunting challenges. Global markets and political structures are shifting and the global development agenda has lost ground to the more politically pressing issues of security: food security, energy security, political security, and environmental security, including climate change and the growing water crisis. The urgency of redressing the dramatic shifts creates new and very large challenges for achieving peace and prosperity in forest areas. These emerging needs, combined with a complex international setting, demand different leadership skills from public agency leaders.

Eunice Padley, National Forester, Ecological Sciences Division, Washington, D.C., participated in the "Next Generation of Forest Agency Leaders - Global Issues in Governing Natural Resources" workshop along with 16 other representatives from the U.S., Brazil, Cameroon, India, Indonesia, and Mexico. The sessions were held in Oaxaca, Mexico, from July 28 – August 1.

The workshop was described as "An international training seminar for promising senior officers in public forest agencies." It was organized by the Rights and Resources Initiative (RRI), the National Forestry Commission of Mexico (CONAFOR), and MegaFlorestais (an informal network to facilitate mutual learning among forest agency leaders).

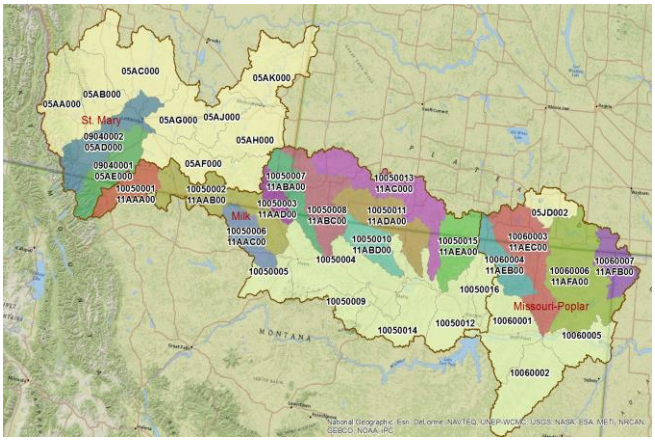
Objectives were to: 1) better prepare the next generation of public forest agency senior leaders to lead in a more complex social, political, environmental and market context , 2) engage senior executives from forest ministries and related public agencies in cutting-edge analysis and information for a deeper understanding of global transitions in forest tenure and governance, and markets, 3) promote improved information sharing and networks among these agency leaders through frank and open dialogue in a small group setting where problems and solutions can be discussed openly, and 4) strengthen contributions of forest agencies to addressing land rights, poverty alleviation, governance, conservation, and climate change challenges in their countries.

The workshop was targeted at mid-career forestry agency staff with potential for taking on leadership positions. NRCS lacks employees in this category, highlighting the need for succession planning and development of new leadership. Eunice has prepared a FY 15 Initiative proposal to assist in career development experiences for potential NRCS forestry leaders, and it is one of the issues she will be promoting.

U.S./Canada Hydrographic Data Harmonization Project

Tom Potter is the State GIS Coordinator for the USDA-NRCS in Montana, based out of Bozeman, Montana. One of the hats Tom wears is the Watershed Boundary Dataset (WBD) Coordinator for the State of Montana. The WBD is a nested hierarchy of drainage areas covering the entire U.S. Work began in the mid-1970s and continues to this day. Early work was done by the Department of Interior-U.S. Geological Survey (USGS), delineating down to the Subbasin, or 8-digit level. NRCS began work in the mid-1980s to delineate smaller

Watershed (10-digit) units, and in the 1990s took it to the Subwatershed (12-digit) level. These Subwatersheds, 10,000 to 40,000 acres in size, now cover the entire U.S. The WBD and the NHD (National Hydrography Dataset) are currently managed by the USGS and the NRCS.



It has been great having these datasets for the entire country, but water and drainage areas do not stop at the international boundary. In fact, managing water resources along the border is a major geo-political issue, and having accurate GIS data is extremely important. For instance, the Milk River begins in Montana, flows into Canada for several hundred miles, and then flows back into Montana. However, the international boundary has been treated like the end of the world by governments on both sides. Standards are different, lines do not match up, naming conventions are different, and the associated datasets contain different attributes. This is where the International Watersheds Initiative (IWI) and the U.S./Canada Hydrographic Data Harmonization Project have taken the lead. The IWI has been sponsored by the International Joint Commission (IJC). The IJC is responsible for managing the 1909 Boundary Waters Treaty between the U.S. and Canada. The Data Harmonization Project is being spearheaded by USGS.

In August 2014, Tom traveled to Edmonton, Alberta, to meet with key players in the Harmonization Project. The weeklong meeting focused on the state of current datasets, progress reports on Harmonization, exploring methods to crosswalk and match datasets, and evaluating delineations in the transition zone. Much progress was made, partners became acquainted with each other, and commitments were made to continue collaboration on data harmonization.

Since that meeting, Tom has completed work on two Subbasins in the transition zone and submitted them to the team for review. He is currently working on the Milk River area.

Related links to the project are:

www.ijc.org/en_/IWI
nhd.usgs.gov/wbd.html
nhd.usgs.gov/Canada-US_Hydro_Harmonization.pdf

20th Latin American Congress of Soil Science

The 20th Latin America Congress of Soil Science (CLACS) was held November 9-15, 2014, in Cusco, Peru, and hosted by the Latin America Society of Soil Science (SLCS). The purpose of a congress was to: (i) ensure the advancement of soil science and its application, and (ii) to handle the business of the society. This meeting was the opportunity for U.S. and international scientists and representatives from participating universities, governmental agencies and the private sector to meet and address issues of concern to soil science and to the National Cooperative Soil Survey (NCSS) partnership.

Thomas Reinsch, Leader, World Soil Resources, Beltsville, Maryland, presented posters at the conference and Moustafa Ali Elrashidi, Research Soil Scientist, National Soil Survey Center, Lincoln, Nebraska, gave the keynote speech at the heavy metals symposium.

The CLACS is a unique opportunity, only occurring every two to three years, where NRCS can outreach to the Latin America soil science community. This international collaboration

strengthens our entire program and will have an impact on the future of soil science throughout the world.

Related Internet Resources

USDA Foreign Agricultural Service (FAS) – http://www.fas.usda.gov

Environmental Protection Agency (EPA) – http://www.epa.gov

USDA Natural Resources Conservation Service (NRCS) –
http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home

USDA NRCS International Programs Division –
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/alphabetical/international/

USDA NRCS National Design, Construction, and Soil Mechanics Center –
http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/ndcsmc/

USDA NRCS East National Technology Support Center –
http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/entsc/

USDA NRCS Central National Technology Support Center –
http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/cntsc/

USDA NRCS West National Technology Support Center –
http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/wntsc/

USDA NRCS National Soil Survey Center – http://soils.usda.gov/contact/nssc/

USDA NRCS National Soil Information System - NASIS –
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053552

U.S. Agency for International Development – http://www.usaid.gov

Food and Agriculture Organization of the United Nations (FAO) – http://fao.org/home/en/

The International Center for Agricultural Research in the Dry Areas (ICARDA) – http://www.icarda.org/

The International Water Management Institute (IWMI) – http://www.iwmi.cgiar.org/